REMARKS

Applicant thanks the Examiner for the interview of December 2, 2003, during which the Examiner indicated that the proposed amendments to Claim 1 overcame the cited references. Similar amendments have been made to Claims 7 and 17. Because Claim 29 is directed to the output stream of the adjunct processor and not the input stream from the user, amendments were made to Claim 29 to clarify that the output stream was received from the adjunct processor.

The Examiner rejects Claims 1-3, 5-6, and 25 under 35 U.S.C.§102(b) as being anticipated by Nakashima (U.S. 5,479,490); Claims 29-33, 35-37, and 42 under Section 102(e) as being anticipated by McAllister et al. (U.S. 6,385,584); Claims 4 and 7-24 under 35 U.S.C.§103(a) as being unpatentable over Nakashima in view of Lustgarten et al. (U.S. 6,389,398); Claim 26 under Section 103(a) as being unpatentable over Nakashima in view of Fawcett et al. (U.S. 5,802,526); Claims 27-28 and 40-41 under Section 103(a) as being unpatentable over Nakashima in view of Lustgarten and further in view of McAllister; and Claims 34 and 38-39 under Section 103(a) as being unpatentable over Nakashima in view of Lustgarten and in further view of McAllister.

Applicant respectfully traverses the Examiner's rejections. Applicants submit that the cited references fail to teach, alone or collectively, at least the following italicized features of the rejected independent claims:

> 1. An interactive voice response system for a telecommunications system, comprising:
> an adjunct processor that outputs an output data stream to a user; and
> a speech gateway enabling system comprising:
> a speech recognition engine operable to identify words in an input voice stream received from the user on a first communication path extending between the user and the speech gateway enabling system and

a speech gateway controller operable (a) to transfer at least a portion of the input voice stream received from the user from the first communication path to a second communication path extending between the speech gateway enabling system to the adjunct processor and (b) to transfer the at least a portion of the input voice stream received from the user from the first communication path to the speech recognition engine for processing.

7. A method of providing interactive voice response capability in a telecommunications system, comprising:

(a) directing to a speech recognition engine at least a portion of an input voice stream received from a user on a first communication path extending between the user and a first adjunct processor;

(b) detecting, with the speech recognition engine, at least some of the words in the at least a portion of the input voice stream;

(c) *transferring the input voice stream received from the user to a second communication path extending between the first adjunct processor and a second adjunct processor*;

(d) comparing at least some of the detected words with a grammar, the grammar correlating a plurality of words with a corresponding plurality of command codes, to identify corresponding command codes for each of the at least some of the detected words; and

(e) transmitting a command signal corresponding to at least one identified command code to the second adjunct processor on the second communication path.

17. A system of providing interactive voice response capability in a telecommunications system, comprising:

first and second adjunct processors;

a speech recognition engine that detects at least some words in an input voice stream received from a user on a first communication path extending between the user and the first adjunct processor;

comparing means for comparing at least some of the detected words with a grammar, the grammar correlating a plurality of words with a corresponding plurality of DTMF codes, to identify corresponding DTMF codes for each of the at least some of the detected words;

directing means for directing to the speech recognition engine at least a portion of the input voice stream received from the user;

transferring means for transferring the at least a portion of the input voice stream received from the user to a second communication path extending between the first adjunct processor and the second adjunct processor; and

transmitting means for transmitting a DTMF signal corresponding to at least one identified DTMF code on a second communication path extending between the first adjunct processor and the second adjunct processor.

29. A method of providing interactive voice response capability in a telecommunications system, comprising:

(a) *directing to a speech recognition engine at least a portion of an output data stream received from a second adjunct processor on a second communication path extending between the second adjunct processor and a first adjunct processor;*

(b) detecting, with the speech recognition engine, at least some of the words in the at least a portion of the output data stream received from the second adjunct processor;

(c) *transferring the at least a portion of an output data stream received from the second adjunct processor to a first communication path extending between the user and the first adjunct processor;*

(d) comparing at least some of the detected words with at least one command signal; and

(e) when the output data stream includes a command signal, terminating the directing step.

Nakashima

Nakashima is directed to a system that can be subjected to remote control by an input voice command. The system comprises an automatic answering circuit 5 (Figs. 2, 2A, and 2B) (which the Examiner analogizes to the "adjunct processor") having voice input 24, voice output 38, voice command request input 45, multi-frequency signal input 35, and start output 44, a speech network 9 (which the Examiner analogizes to the "speech gateway enabling system"), an internal line 8, connected to an external office line (not shown), a speech recognition circuit 41 with associated memory 144 (which the Examiner analogizes to the "speech recognition engine"), a control circuit 43 (which the Examiner analogizes to the "speech gateway controller"), a confirmation tone transmission circuit 25, and a dialer 33. As set forth at col. 9, line 24, through col. 10, line 9, a voice command request tone is transmitted from the voice output terminal 38 to the caller via the office line. After listening to the tone, the caller speaks a voice command signal. The voice command signal is directed to the speech recognition circuit 41. The corresponding command is identified by the circuit 41 and forwarded to the control circuit 43. The control circuit 43, drives the dialer 15 to

output a multi-frequency signal corresponding to the command to the automatic answering circuit 5, which performs the requested command. A confirmation tone is also outputted by the confirmation tone transmission circuit to the caller indicating successful voice recognition of the command signal.

Nakashima does not forward the voice command signal to the answering circuit 5. Switches SW6 and SW7 are not turned "on" at the same time. When the circuit 5 outputs a signal of H level, switch SW6 is turned off (col. 4, lines 4-8) and switch SW7 is turned on (col. 4, lines 29-45, and col. 8, line 59-col. 9, line 2). As can be seen from Fig. 1, when switch SW6 is turned off or is open no voice stream is transmitted to the voice input 24 of the circuit 5. Because switch SW7 is turned on or is closed, the voice stream is diverted to the speech recognition circuit 41. Conversely, when switch SW6 is turned on, the voice stream is transmitted to the voice input 24. Because switch SW7 is turned off, the voice stream is not diverted to the speech recognition circuit 41. Accordingly, a portion of the voice stream is not directed to *both* the adjunct processor and speech recognition engine as required by the rejected claims.

The Examiner analogizes the first communication path to the line extending from terminal 14 of the automatic answering circuit 5 to switches SW4 and SW7 and the second communication path to the line extending from the voice command request port 45 of the automatic answering circuit 5 to the control circuit 43 and switch SW7. As set forth at column 4, line 29, the signal of H level is output on the line or "first communication path" to cause switch SW4 to be switched to the multifrequency signal terminal 35 side and the switch SW6 to be closed. The "first communication path" as defined by the Examiner does not carry an input voice stream from the user,

as required by the claims. Moreover, as noted previously, when switch SW6 is switched to this position the voice input from the user is directed not to the automatic answering circuit 5, but to the speech recognition circuit 41.

At page 19 of the final Office Action, the Examiner finds these arguments unpersuasive by stating as follows:

> The Applicant stated on page 14 ¶2 that Nakashima does not forward the voice command signal to the answering circuit.
> The Examiner respectfully disagrees.
> Nakashima (column 8, lines 62-66) stated the control circuit outputs a voice command to voice request terminal of the automatic answering circuit.

In stating that Nakashima does forward a voice command signal to the answering circuit, the Examiner relies on column 8, lines 62-66, which states that the signal of H level is outputted from the start terminal 44 of the automatic answering circuit and inputted into the control circuit 43. The control circuit outputs a voice command request signal to the switch SW7 (which turns switch SW7 on and diverts the voice stream from the caller to the speech recognition engine) and to the voice command request terminal 45 of the automatic answering circuit.

The problem with the Examiner's position is that Claims 1, 7, and 17 require the input voice stream provided to speech recognition engine and transferred to the second communication path extending between the speech gateway enabling system to be from a common source, namely the user. In Nakashima, by contrast, the voice command signal transferred to the speech recognition circuit 9 is from a *different* source (namely a caller) than the voice command request signal (which is from the answering circuit itself). (*See also* col. 4, line 41 to col. 5, line 5 for distinction between

voice command signal and voice command request signal.) The claims require the voice stream provided to the speech recognition engine and to the adjunct processor to be from the *same* source.

McAllister et al.

McAllister et al. is directed to a voice response unit (VRU) that includes a library of content equivalent messages and prompts which may be substituted for one another to vary the presentation of messages provided to a user and thereby more closely simulate a human operator. Groups of content equivalent messages and prompts include multiple audio files, each with a slightly different wording or phraseology, but conveying substantially the same information. After a particular message content is selected, the corresponding group of messages is identified and a random number generated and used to select one of the audio files of the group for playback.

The VRU 102 interfaces with a speech recognition engine 114 and sound card 116 and in turn with the telephone line interface card 118. Upon receipt of a speech signal from telephone line interface card 118, a speech recognition client 108 in the VRU performs preprocessing of each speech signal for speech recognition engine 112 including gross and pointing and speech buffer management. McAllister et al. fails to teach the transfer of at least a portion of the input voice stream from the first communication path to the second communication path and to a speech recognition engine for processing let alone the transfer of at least a portion an output data stream received from the VRU from the second communication to the first communication path and to the speech recognition engine.

Lustgarten et al.

Lustgarten et al. fails to address the deficiencies of Nakashima. Lustgarten et al. is directed to an IVR system for an information network and a method for storing and executing user queries stored on the network so that such queries do not have to be re-entered each time a user wants to access information from or execute a transaction on the network. The system can also be programmed to automatically execute the query at a predetermined time or times and deliver information retrieved from the network and/or confirmation of the execution of a transaction on the network to the user in a format specified by the user.

Fawcett et al.

Fawcett et al. is directed to an interactive voice response system (IVRS) used as an interface at a wide variety of support and information retrieval centers. A caller who contacts an IVRS-equipped support center can choose to have the voice information contained in the IVRS means displayed graphically on the caller's communication terminal. The graphical display allows a caller to navigate up and down in the IVRS menus, skipping intermediate steps that would be required making responses to voice queries. In one embodiment, HTML is used to produced the graphical display. The HTML data also contains a predefined protocol used to display IVRS menus. The display of IVRS menus saves callers time and displays IVRS information more quickly and thoroughly than could be with voice. Graphical display of IVRS menus also saves support costs since a caller may find desired information without interaction with support center personnel.

Accordingly, the rejected claims are allowable.

The dependent claims provide further bases for allowability.

By way of example, dependent Claim 6 requires, inter alia, the speech gateway controller to direct at least a portion of the output data stream from the second communication path to the speech recognition engine. This operation is neither suggested nor disclosed by Nakashima and Lustgarten et al.

Dependent Claim 8 requires the directing and transferring steps to occur at least substantially simultaneously. As noted above, Nakashima, at best, teaches that the steps are performed at different times.

Dependent Claim 9 teaches the use of a switch symbol to at least one of enable and disable the directing step (a). *See also* Claims 15, 18, and 23.

Dependent Claim 13 teaches that the transferring steps (c) and (f) occur at least substantially simultaneously.

Dependent Claim 14 is directed to the muting of the first communication path when the transmitting step (e) is performed. *See also* Claim 22.

Dependent Claim 16 is directed to the steps of: (f) determining if one of the first and second communication paths has been disconnected and (g) when one of the first and second communication paths has been disconnected, disconnecting the other of the first and second communication paths. *See also* Claim 24.

Applicant has added new Claims 25-42, which are also allowable. By way of illustration, independent Claim 29 is neither suggested nor disclosed by Nakashima or Lustgarten et al.

Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation

would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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